

HoldSafe™ hidden

Installation Guide

Internally Mounted Handrail UV-C Disinfection Unit

SPM : System Powered Models

HSH03SPM

HSH04SPM (pictured)



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This publication is for informational purposes only. All persons participating in the installation and/or maintenance of the UV disinfection unit must be qualified to perform such work.
Carry out a risk assessment before starting any work

Although this UVC device has been tested and proven effective against the virus causing Covid-19, it is to be used as a supplement to and not a substitute for standard infection control practices where applicable.

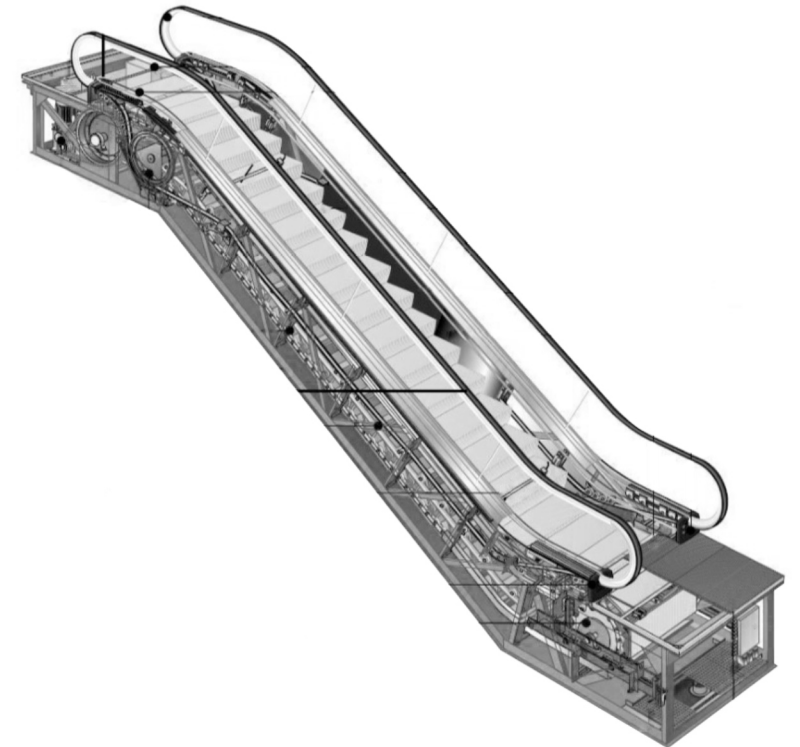
WARNINGS



- UV light emitted from this product when in operation. Do not look directly at the light source. **Disconnect before servicing**
- This UVC disinfection lamp is designed exclusively for escalators and moving walk handrails.

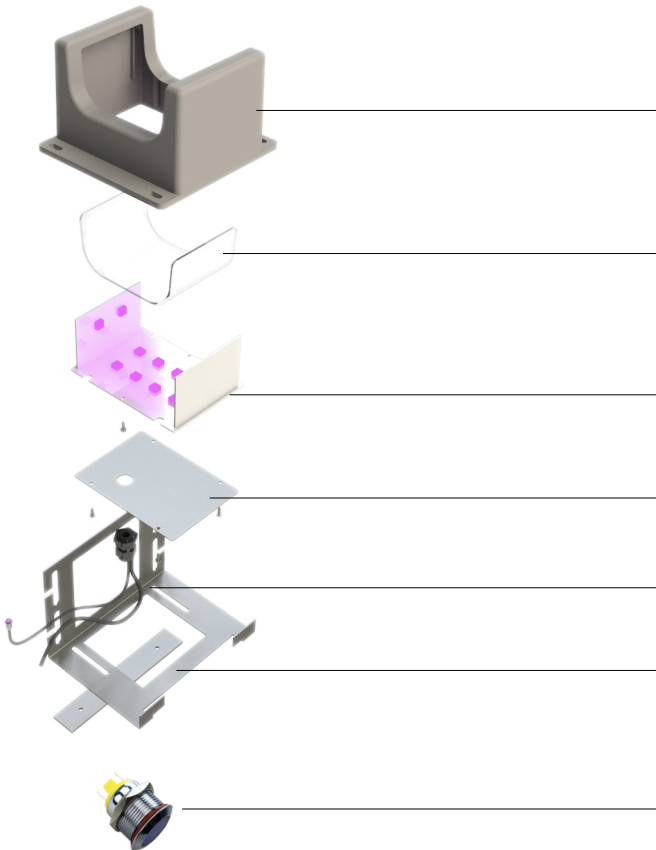


- Verify local codes or standards.. Only qualified professionals can install, test, and operate this product.
- Wear proper eye protection, gloves and safety gear during the installation.
- Please follow the steps in this Installation Guide



Component

Dimensions



Main housing

Integrated quartz glass*

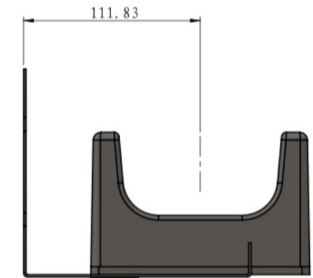
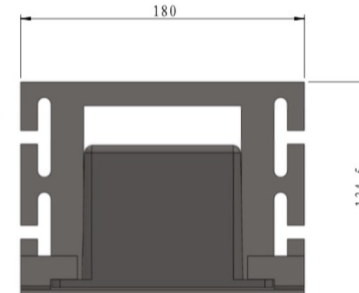
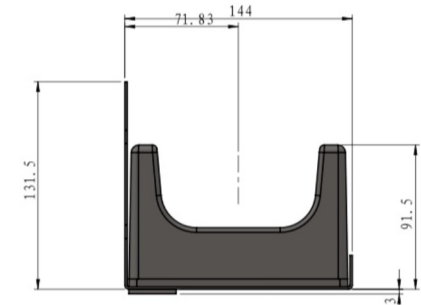
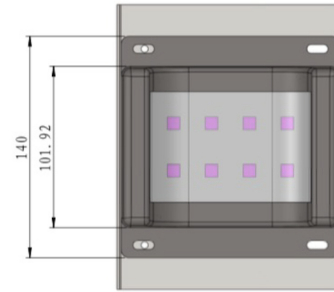
UV-C LED light module

Bottom cover

Cable

Mounting bracket

LED indicator



* The Integrated quartz glass may not be as illustrated






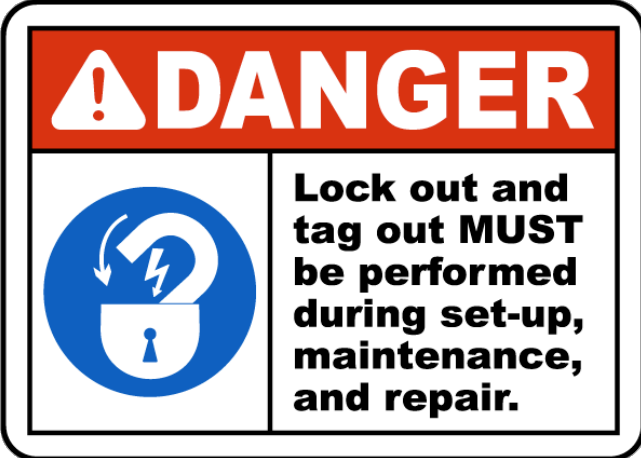




BOM list

ID	QTY	Articles
1	1	Main Housing
2	1	Integrated quartz glass
3	1	UV-C LED Module board
4	1	Bottom cover
5	1	Cable (5M)
6	1	Mounting Bracket
7	1	Operation monitor LED
8	1	Cable (3M)
9	2	M6 screws
10	2	M8 T-boltscrews
11	4	Fastening Screw Cushion

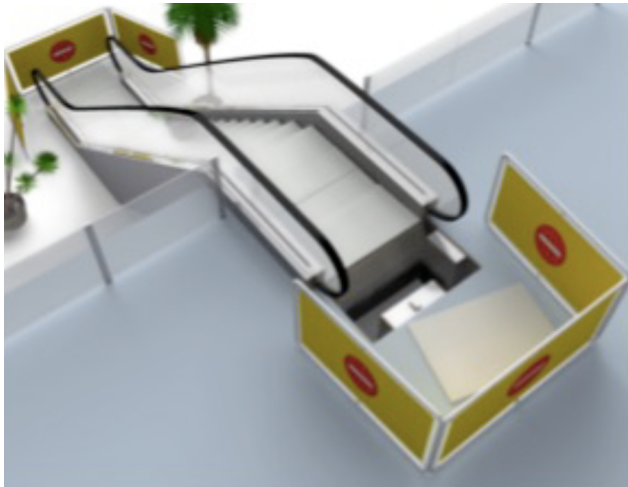
Technical Specifications

Model	HoldSafe Hidden 04SPM
Input Voltage	DC24V+/-10%
Input Current	0.3A
Totally Rated Power	6.24W
Wave length	270 - 280nm (275nm TYP)
LED Size	Chip Scale SMT
LED Quantity	12PCS
Design Lifetime	15000Hrs - 25000Hrs
IP Protecting Level	IP55
Working Temperature	-25°C~+60°C
Operation Relative Humidity	≤95%
Storage Environment	-30°C~+70°C
Best Disinfection Distance	≤25mm
Irradiation Area	195*70mm

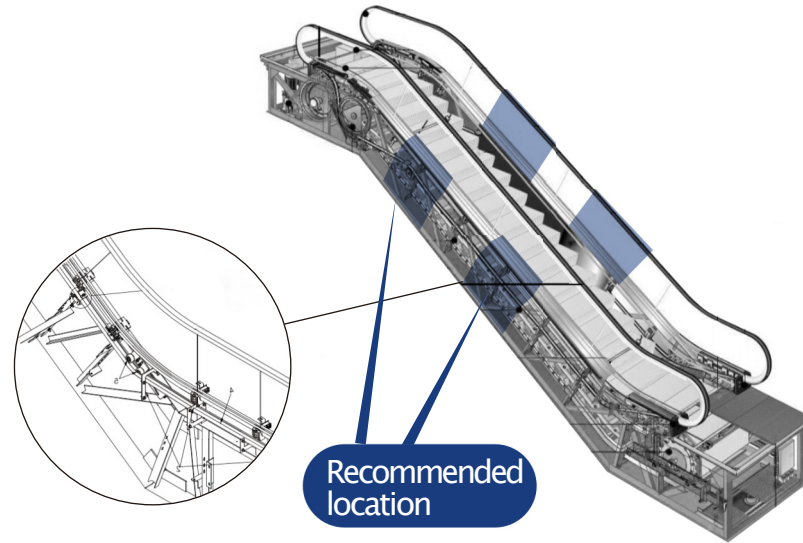
Cautions and personal protection equipment required

 <p>Electricity Hazard</p>	 <p>Safety shoes</p>	 <p>UV Light Source & UV Light Emissions</p>
 <p>Pinch point hazard</p>	 <p>General Hazard</p>	
 <p>Hard hat</p>	 <p>Safety gloves</p>	
 <p>Opaque Eye Protection</p>	 <p>Visual & Audio Check</p>	

1
STEP Place protective barriers



2
STEP Determine installation point(s)



3
STEP Remove skirt cover plate



⚠ DANGER

Lock out and tag out **MUST** be performed during set-up, maintenance, and repair.

- General Hazard
- Hard hat
- Visual Check

Notes

All escalators can vary. We recommend the following installation points :
Measuring from the lower or upper combline, look for the second skirt cover plate; typically between the 6th and 9th steps.

Notes

Tool: Required screwdriver
From the start of the lower comb line of the escalator find the screw positioned above the second skirt cover plate

4 STEP Secure the bracket



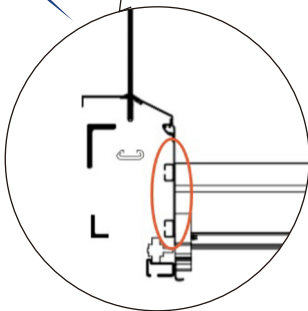
Secure the mounting bracket to the C-shapeslot

Notes




Use the screws and nuts supplied with the product (M8*2)

Tool: M8 wrench

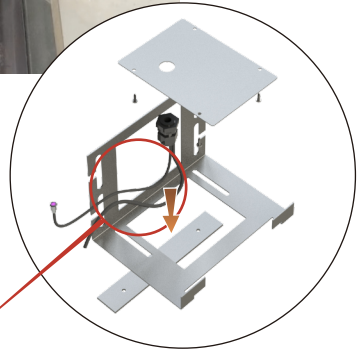


5 STEP Install the main module



 Pinch point hazard

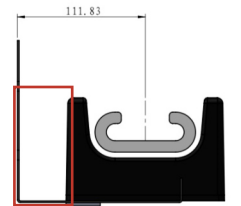
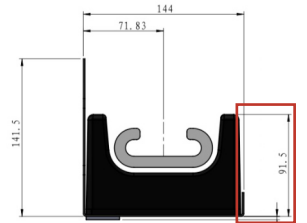
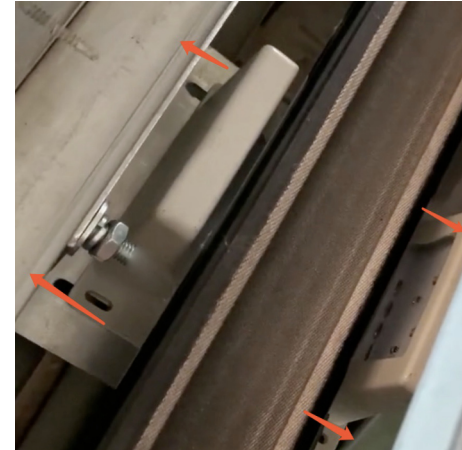
 Safety gloves



Notes

- ✓ The surface is quartz glass - Please avoid touching the glass surface !
- ✓ Make sure the power cable goes through the bottom open square of the bracket

6 STEP Adjust the distance between the LED light source and the handrail surface

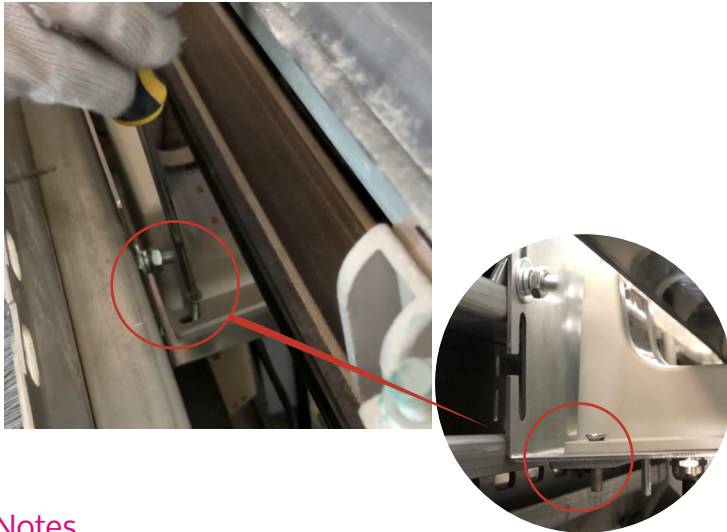


Notes

- ✓ We suggest that the vertical height distance between the handrail surface and the protective glass should be MIN 5MM / MAX 15MM
- ✓ The protective glass should be positioned to be at the center of the handrail plane face. The more centered it is the better the Disinfection effect will be

7
STEP

Secure the main module on the mounting bracket



Notes



Use the screws and nuts supplied with the product (M6*2)

Tool: screw driver

8
STEP

Install the LED indicator on the exterior of the skirt panel



Use the provided twist drill bit*



Notes

- ✓ Select a suitable place to install and position the indicator.
- ✓ The max distance from the main body should be 3M
- ✓ We recommend that it is installed near the entry point of the escalator / moving walkway.
- ✓ Use the twist drill to make the correct hole in the skirt panel.

*(Included on orders of 10 units or more)

Tool : electric drill

9
STEP

Position the TAG correctly

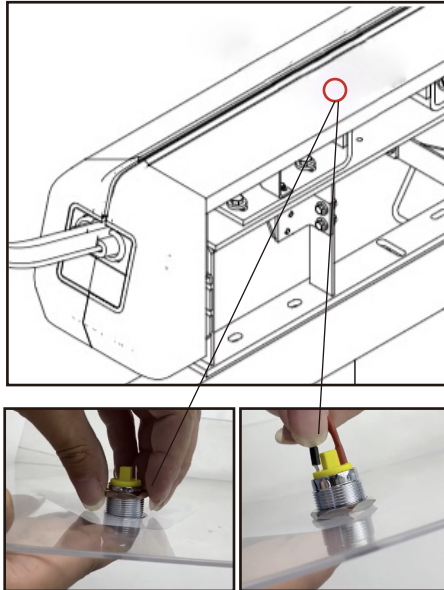


Notes

- ✓ Apply the adhesive label in the orientation you require.
- ✓ We recommend to place the label so it is visible to users as they enter the escalator or moving walkway

10
STEP

Fix the LED indicator correctly and adjust the cable length

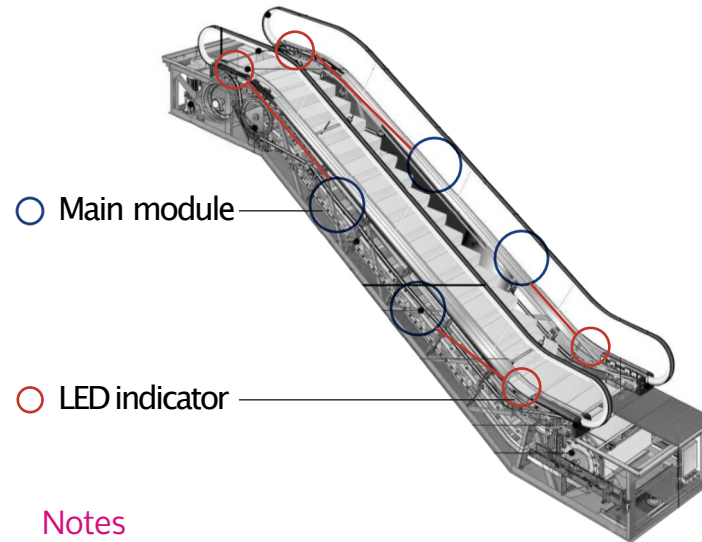


Notes

LED lights do not distinguish between a positive and negative terminal for DC power

11
STEP

Connection of the cable



Notes

The HoldSafe hidden unit uses 24V DC power .
Connect the 5m provided cable to the control cabinet 24V output port interface.

** Verify if a transformer (AC to DC) is required**

See Page 11 for recommended transformer type



IMPORTANT : The power supply must be connected to a circuit that will shut-off if the Emergency Stop switch is activated



WARNING

Power to the UV-C Disinfection Unit must be disconnected prior to undertaking maintenance

Note

The above label must be placed on or near the UV-C Disinfection Unit to ensure that power is disconnected prior to service of the unit or system



CHECKPOINT

Ensure all cables are adequately secured and protected

12
STEP

Final Examination



Opaque Eye Protection



Visual Check



UV Light Emissions

Label may differ from image

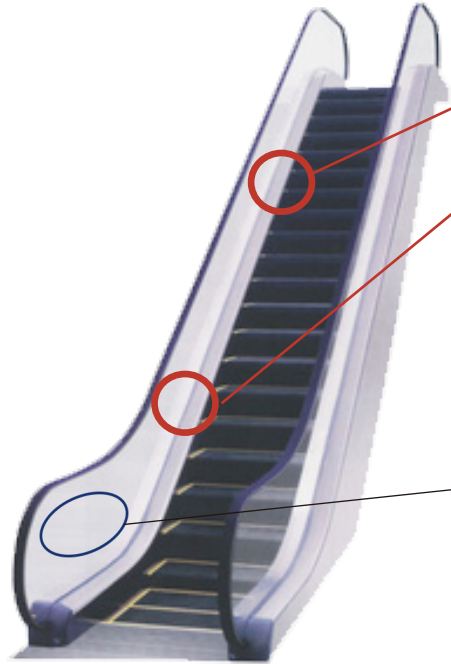
Notes

Check whether the 12 LED lights of the module and LED indicator light are working. Do not stare at UVC LEDs.



13
STEP

Signage & Safety Labels



Notes

Local safety code may require mandatory WARNING labels and optional balustrade signage to alert users to the active disinfection of the handrail underway. Please check local code or with authorities

Safety Warning Labels (Check local codes)



Place on skirting panel at access panel where each UV-C Disinfection Unit is located

Public Notice Signage*



Place on balustrade to be visible to users as they embark at the entry point

*Optional - For illustration only. See Page 12

Q: What is the waterproof rating?

A: HoldSafe hidden is IP55 level waterproof and dust resistant

- A product with an IP55 rating is protected against any quantity of dust that could interfere with the normal operation of the product but is not fully dust tight. The product is completely protected against solid objects. It is also protected against water jets projected by a nozzle (6.3mm) from any angle.

Q: What tools are required for installation?

A: We ship the necessary installation components and screws/bolts with the Hidden module. During the installation process, installers should be equipped with an M8 wrench, Philips screwdriver, and electric drill.

IMPORTANT : The use of PPE (Personal Protective Equipment) in accordance with your risk assessment of the the task being undertaken is required. Including but not limited to the use of protective gloves and safety glasses/eye protection

Q: How long does installation take?

A: We recommend installation by a certified maintenance technician due to the required electrical connections. Normally the whole installation process takes 20-30 minutes after the correct locations for the units have been identified in the escalator truss. Some older escalators may take longer due to structural differences.

IMPORTANT: We recommend a competent electrician or electrical technician familiar with the relevant product (the type of escalator or moving walkway under consideration) and the relevant product compliance and safety standards i.e EN60204-1, EN115, AMSE 17.1, etc.

Q: Can the HoldSafe hidden unit damage the handrail?

A: All the tests show that if the units are correctly installed, there is no impact to the handrail surface. The unit does not make direct contact with the handrail. Most handrails use SBR type material and include UV inhibitors to reduce damage from all light sources.

Q: Does the HoldSafe hidden unit need a power source? How does it get power?

A: Yes, it needs power with DC 24V, and it can be connected to 24V output port of the escalator control cabinet.

WARNING - THE POWER SOURCE USED MUST BE CONNECTED TO THE ESCALATOR EMERGENCY CUT OFF. THE HIDDEN UNIT MUST NOT BE ENERGISED DURING AN EMERGENCY SHUTDOWN OR DURING REGULAR POWER DOWN OR POWER OFF SITUATIONS.

- THE POWER SUPPLY MUST BE FUSED
- THE WIRING SUPPLIED IS 300V. EXTENDING THE SUPPLIED WIRE IS NOT RECOMMENDED HOWEVER LONGER ELECTRICAL CONNECTIONS CAN BE MADE UP TO 10M AS LONG AS THE CABLE IS CORRECTLY SPECIFIED.
- ALL ELECTRICAL CONNECTIONS THAT ARE MADE, MUST BE IN ACCORDANCE WITH THE ESCALATOR MANUFACTURERS GUIDELINES AND MUST NOT COMPROMISE ANY FUNCTIONAL SAFETY SYSTEMS WITHIN THE ESCALATOR OR WALKWAY, FOR EXAMPLE, EMERGENCY STOP FUNCTIONS WITHOUT A FULL DETAILED AND DOCUMENTED ASSESSMENT OF THAT CHANGE IN ACCORDANCE WITH ISO 13849-2.

NOTE - IF THERE IS NOT AN INTEGRATED 24V DC SUPPLY OR IT IS NOT POSSIBLE TO CONNECT A TRANSFORMER TO AN EXISTING AC SUPPLY THAT IS INTEGRATED INTO THE ESCALATOR SAFETY SYSTEMS THEN AN ASSESSMENT MUST BE MADE IN ACCORDANCE WITH LOCAL AND INTERNATIONAL SAFETY GUIDELINES.

PürHealth recommends the following transformer if it meets local electrical and safety guidelines (Can be supplied upon request):

MEAN WELL LRS-35-24 : Power Supply, AC-DC, 24V, 1.5A100-264V In, Enclosed, Commercial, 36W, Mean Well LRS Series, 1 required per 2 HSH units

Q: Is the HoldSafe hidden unit Flame Retardant?

A: The frame and connecting cable meet the highest standard flame-retardant level (level V0) (ABS V0) , for the highest safety. In accordance with the European EN115 escalator standard and the North American ASME standards.

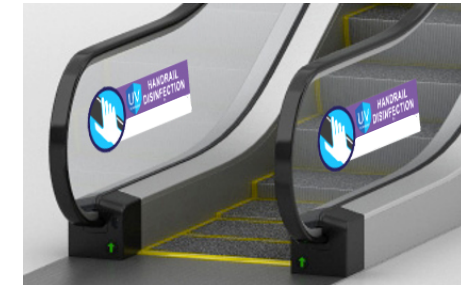
Q: How do we show our escalator riders that we are keeping them safe, is there an external indicator?

A: There is an included LED indicator label that illuminates while the unit is operating and can be installed in the escalator truss panel. Each unit comes with it's own indicator to allow for indication at either end of an escalator or moving walk.

We can also provide balustrade signage to provide your riders with a very clear and visible indication of the UV Disinfection in progress. (See illustration. Minimum quantities may apply. Contact info@purhealth.ca)



Optional - For illustration only

**Q: Can the HoldSafe hidden unit be used on all brands of Escalator or moving walk?**

A: Our product covers 95% different types of escalators on the market (except Russian made escalators). If your escalator model is too old, we may need you to provide us your escalator blue print to find a specialized solution for you. Usually the width of handrail (between 70-88mm) and the handrail thickness (between 25-35mm) are the key points to review.

Q: Does the UV-C light stop working when the escalator is in sleep or power-saving mode?

A: Power to the the Hidden unit is cut when the escalator powers down. When the power is off, there is no UV-C light emitted. The external indicator light is powered in the same way (although it is not UV-C for safety) and will be off when the Hidden unit is powered down. This process should be verified by the installation technician at time of installation prior to a full restart of the escalator.

Q: Is UV-C effective against COVID-19?

A: **YES.** Ultraviolet light has been demonstrated to be capable of destroying viruses, bacteria and fungi in hundreds of laboratory studies (Kowalski 2009). HoldSafe has specifically tested for the effectiveness of our products against the SARS-CoV-2 virus (Covid-19) and have conclusive test results to indicate the effectiveness of our products. Only HoldSafe by PürHealth has conducted testing in accredited laboratories on actual handrail material with a surrogate virus to prove effectiveness. Contact us for detailed reports. info@purhealth.ca

Q: How many HoldSafe hidden units should be installed in one escalator?

A: If the escalator elevation is less than 4.5 meters, we suggest it should be one pair (2 units) per escalator. Therefore 1 unit per handrail balustrade. However, if higher, or for increased effectiveness (accelerated virus deactivation), we recommend doubling the number of units to 4 units; 2 units per handrail balustrade.

Q: What maintenance does the HoldSafe hidden unit require?

A: The LED module is the only part of the Hidden unit that requires regular maintenance. The LED's have a life of 10,000 - 23,000 hours, after which time they don't stop working but they do become less effective. We recommend maintenance every 13-24 months depending on the escalator operating cycle, and we provide either replacement LED boards that or full replacement modules, please ask us for more information.

Q: Apart from the obvious disinfection and cleaning that the HoldSafe hidden unit offers what else can it provide to my customers?

A: The UV-C technology that the Hidden uses is clearly beneficial in keeping handrails clean and people safer from pathogens. We also believe that building confidence in your escalator users will dramatically reduce accidents that happen due to not holding the handrail. In addition, using UV-C technology in a continuous and effective way, reduces the need for cleaning chemicals and labor that are otherwise used.